Rulemaking (R.) 20-07-013: Phase 4
Workshop #3: December 18, 2024

Risk Mitigation Accountability Report (RMAR)

California Public
Utilities Commission

Extension Cord Safety

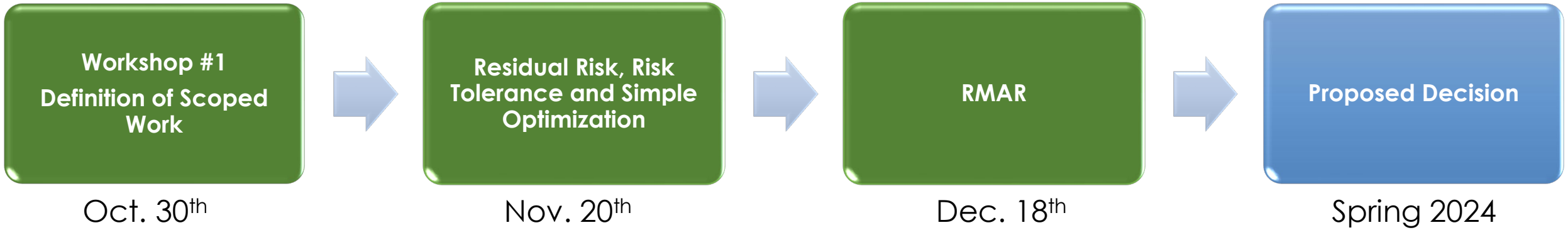
- “3,300 home fires start from extension cords each year” (CPSC)
- Choose the right cord for your power needs.
- Avoid excess heat and damage.
- Keep cords dry and visible.

Workshop #3 Agenda

Introductions	9:00 – 9:10 am
Opening Remarks: Commissioner Reynolds' Office	9:10 – 9:15 am
Risk Mitigation Accountability Report (Foundation): SPD Presentation	9:15 – 10:00 am
Break	10:00 – 10:10 am
Risk Mitigation Accountability Report (Tables and Infractions): SPD Presentation	10:10 – 10:50 am
Break	10:50 – 11:00 am
Risk Mitigation Accountability Report: Discussion	11:00 – 11:50 am
Phase 4 Workshop Close and Next Steps	11:50 am – 12:00 pm

Review of Phase 4 Timeline

Phase 4 Timeline



PURPOSE & EXPECTED OUTCOMES OF THE WORKSHOP

Purpose & Outcomes for Workshop #3

- Risk Mitigation Accountability Reports (RMAR)
  - Discuss the structure of the RMAR process to hold utilities accountable for the forecasted risk reduction benefits and costs presented in RAMP and GRC.
  - Discuss in the context of RMAR how the utilities would address
    - changes to risk models
    - methodologies for attributing actual risk reduction
    - A proposed enforcement framework for holding the utilities accountable for infractions.
- Provide feedback on the benefits, costs, and any additional revisions related to the RMAR process.

Staff Proposal for RMAR

Presenter: SPD Staff

Risk Mitigation Accountability Reports (RMAR)

Safety Policy Division Staff

December 18 2024

California Public Utilities Commission

Consolidated Statement of Risk and RMAR

- Require standardized tables to help answer:
  - Has utility risk been reduced to a tolerable level, and if not, when will it be reduced to that level?
  - How is the utility achieving other objectives such as cost-efficiency, safety and reliability improvements, and affordability?
- The primary purpose of a consolidated statement of risk is to present aggregated risk and risk reduction at the Risk Event, Attribute, Tranche level
- Primary Principle is being able to understand the "compared to what" and answer the "why" of the comparison
- Internal review may require assessment at the Risk Reporting Unit level

Multi-Dimensionality and the Risk Reporting Unit

- Hierarchy
  - Electric/Gas Division, HFTDs, circuits, regions
- Scenario
  - actuals, plan or forecast
- Version
  - a risk model version

RRU

1. **Unique Identifier**
   1. Hierarchy
   2. Scenario
   3. Version
   4. Risk Event
   5. Tranche
   6. Mitigation
2. **Common Elements (Risk Data)**
   1. Attribute
   2. Risk Measure
   3. Line Item
   4. Work Unit
   5. Time

Plan Phase and Results Phase

- Plan phase is the projected risk reduction as seen in RAMP and GRC forecasts
- Results phase includes the actual reported risk reduction after mitigation is implemented and the actual risk events that occur.

Version and Change Control

- Types of Changes
  - Risk Environment
  - Organizational
  - Risk Modeling
  - Subjective Change
- Change Control
  - Store and access scenarios and versions
  - Compare and report current vs. original
  - Recasting
  - Backcasting
  - Replanning

Evaluating Mitigation Impact

- Require utilities to discuss the extent that observed results were due to mitigation effectiveness as opposed to other factors
  - Outcome and Results Analysis (High Frequency)
  - Input Analysis (Rare Events)
  - Statistical Analysis/Hypothesis Testing
- Determining Attribution
  - Completeness and effectiveness of mitigation
  - Hypothesis testing

Questions?

Break

10:00 – 10:10 am

Stock and Flow of RMAR

	Y1	Y2	Y3	Total
Pre-mitigated risk	$100			
Mitigation benefit or Risk reduction	$10	$20	$20	$50
Mitigation cost	$40			$40
BCR				1.25
Overall residual risk	$90	$80	$80	
Risk tolerance	$60	$60	$60	

Plan Phase Tables

Mitigation Benefit Overview		
4 Year Plan Horizon	Average Risk	Tail Avg. Risk
Total mitigation benefit	$1,930	$9,905
Total mitigation cost	$1,155	-
Net mitigation benefit	$775	-
BCR:		
WACC discount	1.97	-
Social discount	2.51	-
Hybrid discount	2.32	-

Risk and Risk Tolerance Overview		
	Average Risk	Tail Avg. Risk
Pre-mitigated risk at time 1	$1,700	$8,400
Risk reduction	$215	$1,099
Overall residual risk, year 4	$1,485	$7,301
Risk Tolerance	$500	$1,800
% of risk tolerance gap reduced	18%	17%

Results Phase: Outcome Tables

Hierarchy	Enterprise
Risk Events	All
Version	Actuals/FC
Model	Model 2.1
Period	Year 3
ACTUALS/FC VS. PLAN	

		Modeled Risk		Actual %
Risk Outcome	Actual	Avg	Tail Avg	of Modeled
Risk outcome, Year 3	$3,100		$7,301	42%
Risk outcome, Years 1-3	$3,500	$4,675		75%

Risk outcomes by year	Actuals				
	Year 1	Year 2	Year 3	Total	Average
Risk outcome	$250	$150	$3,100	$3,500	$1,167
Average risk tolerance					$500
Risk outcome B(W) than risk tolerance					($667)
Tail average risk tolerance	$1,800	$1,800	$1,800		
Risk outcome B(W) than risk tolerance	$1,550	$1,650	($1,300)		

Results Phase: Mitigation Benefit and Cost

Forecast Mitigation Benefit	Actuals			Forecast			
Average Risk: Wildfire	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10	Total
a. Wildfire benefit: actuals/forecast	$55	$55	$106	$135	$135	$135	$1,161
Wildfire benefit plan	$63	$63	$143	$143	$143	$143	$1,270
Actuals/Forecast B(W) Plan	($8)	($8)	($37)	($8)	($8)	($8)	($109)
b. Wildfire cost: actuals/forecast	$200	$310	$260	$10	$10	$10	$840
Wildfire cost plan	$200	$510	$10	$10	$10	$10	$790
Actuals/Forecast B(W) Plan	$0	$200	($250)	$0	$0	$0	($50)

Forecast Mitigation Benefit	Actuals			Forecast			
Average Risk:	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10	Total
Wildfire							
a. Wildfire benefit: actuals/forecast	$55	$55	$106	$135	$135	$135	$1,161
Wildfire benefit plan	$63	$63	$143	$143	$143	$143	$1,270
Actuals/Forecast B(W) Plan	**($8)**	**($8)**	**($37)**	**($8)**	**($8)**	**($8)**	**($109)**
b. Wildfire cost: actuals/forecast	$200	$310	$260	$10	$10	$10	$840
Wildfire cost plan	$200	$510	$10	$10	$10	$10	$790
Actuals/Forecast B(W) Plan	**$0**	**$200**	**($250)**	**$0**	**$0**	**$0**	**($50)**
Cyber							
c. Cyber benefit: actuals/forecast	$12	$12	$12	$12	$12	$12	$120
Cyber benefit plan	$12	$12	$12	$12	$12	$12	$120
Actuals/Forecast B(W) Plan	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
d. Cyber cost: actuals/forecast	$5	$5	$5	$5	$5	$5	$50
Cyber cost plan	$5	$5	$5	$5	$5	$5	$50
Actuals/Forecast B(W) Plan	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Hydro							
e. Hydro benefit: actuals/forecast	$0	$0	$50	$50	$50	$50	$400
Hydro benefit plan	$0	$60	$60	$60	$60	$60	$540
Actuals/Forecast B(W) Plan	**$0**	**($60)**	**($10)**	**($10)**	**($10)**	**($10)**	**($140)**
f. Hydro cost: actuals/forecast	$0	$200	$15	$15	$15	$15	$320
Hydro cost plan	$180	$15	$15	$15	$15	$15	$315
Actuals/Forecast B(W) Plan	**$180**	**($185)**	**$0**	**$0**	**$0**	**$0**	**($5)**
Total							
g. Total benefit actuals/forecast	**$67**	**$67**	**$168**	**$197**	**$197**	**$197**	$1,681
Total benefit plan	**$75**	$135	$215	$215	$215	$215	$1,930
Actuals/Forecast B(W) Plan	**($8)**	($68)	($47)	($18)	($18)	($18)	**($249)**
h. Total cost: actuals/forecast	$205	$515	$280	$30	$30	$30	$1,210
Total cost plan	$385	$530	$30	$30	$30	$30	$1,155
Actuals/Forecast B(W) Plan	**$180**	**$15**	**($250)**	**$0**	**$0**	**$0**	**($55)**

Enterprise Level Forecast Table	Actuals			Forecast		
Forecast (actuals Y1-Y3, forecast Y4-Y10) Tail Avg. Risk	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
Wildfire						
Pre-mitigated risk	$4,600					
Risk reduction	$250	$250	$528	$686	$686	$686
Overall residual risk	$4,350	$4,350	$4,072	$3,914	$3,914	$3,914
Risk tolerance	$800	$800	$800	$800	$800	$800
% of risk tolerance gap closed	7%	7%	14%	18%	18%	18%
Cyber						
Pre-mitigated risk	$1,160					
Risk reduction	$72	$72	$72	$72	$72	$72
Overall residual risk	$1,088	$1,088	$1,088	$1,088	$1,088	$1,088
Risk tolerance	$594	$594	$594	$594	$594	$594
% of risk tolerance gap closed	13%	13%	13%	13%	13%	13%
Hydro						
Pre-mitigated risk	$3,480					
Risk reduction	$0	$0	$325	$325	$325	$325
Overall residual risk	$3,480	$3,480	$3,155	$3,155	$3,155	$3,155
Risk tolerance	$766	$766	$766	$766	$766	$766
% of risk tolerance gap closed	0%	0%	12%	12%	12%	12%
Total						
Pre-mitigated risk	$8,400					
Risk reduction	$365	$365	$916	$1,061	$1,061	$1,061
Overall residual risk	$8,035	$8,035	$7,484	$7,339	$7,339	$7,339
Risk tolerance	$1,800	$1,800	$1,800	$1,800	$1,800	$1,800
% of risk tolerance gap closed	6%	6%	14%	16%	16%	16%

Results Phase: Work Unit Table

Wildfire: Actuals and Forecast Vs. Plan by Mitigation Type								
			Actuals B(W) Plan				Forecast B(W) Plan	
	Actual Y1-Y3	Plan Y1-Y3	Unit	%	Forecast	Plan	Unit	%
Circuit Miles								
UG	1,000	1,400	(400)	(29%)	1,320	1,400	(80)	(6%)
CC	380	400	(20)	(5%)	380	400	(20)	(5%)
Total Mitigated	1,380	1,800	(420)	(23%)	1,700	1,800	(100)	(6%)

Framework for Determining Corrective Actions

Error Type	Materiality	Impact	Corrective Action
I. "White flag": (delays in reporting, one-time blips, unintentional.) II. "Yellow flag": repeated delays, repeated errors, suggestive of poor control environment. III. "Red flag": systemic errors, refusal to comply.	• Immaterial – errors would not change how report is viewed and interpreted. • Material – errors could change how report is viewed and interpreted.	• Decision. Would the error have impacted important decisions, such as mitigation portfolio selection? • Financial: Would the error have caused financial harm to any stakeholder?	• Next cycle. Root causes are fixed and corrections in place for subsequent RMAR. Additional penalties possible based on error type. • Restate. Root causes are fixed, RMAR is restated based on materiality and impact thresholds. Additional penalties possible based on error type and impact of errors.

Hypothetical Infraction	Error Type	Materiality	Impact	Commission Action	Utility Action
1) Staff evaluators discover risk accounting errors	I	Immaterial	None	Staff sends Warning Email.	Utility will submit corrective action plan for next RMAR cycle within 7 days.
2) Lack of supporting data in workpapers	I	Immaterial	Decision	Staff issues Notice of Violation.	Utility will submit corrective action plan within 21 days.
3) Staff evaluators discover incorrect aggregation of risk data	II	Material	Decision, Financial	Staff sends Warning Email to utility. Based on utility response, determines whether restatement is necessary.	Utility will submit workpapers related to the aggregation errors. May have to restate RMAR.
4)Utility files incomplete RMAR and misses deadlines for submitting corrections and data requests, even after extensions granted	II	Material	Decision	Staff issues Notice of Violation	Utility must pay fine and will submit justification for delay within 7 days and corrective action plan within 21 days.
5) The utility demonstrates insufficient progress towards achieving any of the following metrics adopted in a GRC Decision: a) Risk Reduction b) Benefit-Cost Ratio	II	Material	Decision	Staff sends Warning Email requiring utility to justify the insufficient progress or issues Notice of Violation directing utility to issue a corrective action plan.	a) Utility will submit justification for insufficient progress and corrective action plan within twenty-one (21) days to Staff. b) A letter must also be sent to the Commissioners, the Governors Office and the California State Assembly's Committee on Utilities and Energy explaining how the utility intends to make progress towards risk reduction and benefit-cost ratios goals. c) Within six months the utility must host a CPUC workshop/en banc detailing the progress they have made, or lack thereof, to the Commissioners.

Hypothetical Infraction	Error Type	Materiality	Impact	Commission Action	Utility Action
6) The utility fails in some material respect to comply with the requirements and conditions adopted in a GRC Decision related to Risk Mitigations	II	Material	Decision, Financial	Staff issues Notice of Violation	Utility must pay fine and will submit corrective action plan within twenty-one (21) days to Staff
7) Repeated instances of infractions 1,2, and 3 above.	III	Material	Decision, Financial	Staff issues an Administrative Enforcement Order with appropriate penalties. Based on utility response, determines whether restatement is necessary.	Utility will submit corrective action plan within 21 days. Utility can file a Request for Hearing within 30 days. May have to restate RMAR.
8) Utility refuses to comply with data requests.	III	Immaterial	Decision	Staff issues an Administrative Enforcement Order with appropriate penalties.	Utility must pay the penalty and issue a corrective action plan. The utility can file a Request for Hearing within thirty (30) days
9) Utility fails to meet conditions of Corrective Action Plan within deadline.	III	Material	Decision, Financial	Staff issues an Administrative Enforcement Order with appropriate penalties	Utility must pay the penalty and issue a corrective action plan. The utility can file a Request for Hearing within thirty (30) days

Break

10:50 – 11: 00 am

Discussion

11:00 am – 11:50 am

RMAR: Discussion

- Should the RMAR compare data from a plan of proposed mitigations, such as the RAMP, a forecast, such as the mitigation investments in the GRC, and actual recorded data of mitigations after implementation? If so, why? If not, why not?
- Should the Commission require RMAR submissions by the utilities be composed of multiple tables that explore the impact of mitigations across different dimensions (i.e. tranches, consequence attributes, time period, utility organizational structure, etc)?
  - If so, what kind of dimensions would you recommend and why?
  - If not, why not?

RMAR: Discussion

- Should the Commission require the utility to present the outcomes of risk events in the RMAR that occurred during the report period and prior report periods?
  - If yes, explain why.
  - If yes, what kind of outcome data should be presented in the RMAR?
  - If no, explain why not.
- Should the Commission require the utilities to report on the progress of work units related to mitigations in their RMAR submission? Explain your answer.

RMAR: Discussion

- Should the Commission require that the utilities provide clear explanations regarding how changes to their risk models will impact their RMAR submission?
  - If yes, explain why.
  - If yes, under what scenarios should the Commission require the utility to conduct a recast, backcast or replan to ensure the RMAR accurately represents the impact of a mitigation?
  - If not, explain why not.
- Should the Commission require the utilities to use various methodologies to demonstrate the causal relationship between the implementation of a mitigation and the stated risk reduction in the RMAR? Explain your answer.

RMAR: Discussion

- Should the Commission establish an enforcement framework to hold the utilities accountable to the information presented in an RMAR?
  - If so, explain why.
    - What type of infractions should be addressed by this enforcement framework?
    - What type of actions or penalties should be levied for each infraction?
  - If not, explain why.
    - If not through an enforcement framework, how should the utilities be held accountable for the information presented in an RMAR?

RMAR: Discussion

- What impact does the requirement of AB 2666 that "the commission shall review which costs, if any, differed from the general rate case forecasts" have on the RMAR?
  - Should the risk reduction accountability requirements of an RMAR mirror the accountability for costs required by AB 2666?

CPUC Close and Next Steps

11:50 am – 12:00 pm

Next Steps

1. Workshop Recording on Youtube (3-4 days)

   https://www.youtube.com/user/CaliforniaPUC

2. SPD Files Post-Workshop Proposal (December 30)

3. Workshop #3 Opening Comments (January 20)

4. Workshop #3 Reply Comments (January 27)

Track 2 Technical Working Group

- January 24th and January 27th to January 31 2025, 10:00 am to 12:30 pm
- If a party wishes to share a template for discussion with the service list, said party must:
  - Inform SPD of its interest by COB Friday December 27, 2024
  - Share its draft data template with SPD by COB Monday January 6, 2025
  - Share any slides with SPD by COB Wednesday January 15, 2025
- Working Group Summaries:
  - Completed and shared with the participants of the TWGs by Friday February 7, 2025
  - Provide utilities with any recommended changes to summaries by Friday February 14, 2025
  - Utilities file final summaries to the RDF Proceeding docket by COB Monday February 17, 2025
- Final Templates
  - Submit a PDF version of the template and guideline RDF Proceeding docket by COB Monday February 17, 2025
  - Submit an Excel version of the data template and a Word version of the data template guideline to SPD by COB Monday February 17, 2025

Thank you!

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Appendix

SPD Recommendations

- The Commission should require the Risk Mitigation Accountability Report (RMAR) be integrated into the Risk-based Decision-making Framework (RDF) and require the utilities to file updates to the RMAR on a regular basis in its most recent GRC Proceeding (The utility should also provide a notification to its most recent RAMP Proceeding). Definitions and terminology used in the RDF should all apply and be used consistently by the utilities when they produce the RMAR.

SPD Recommendations

Safety Policy Division (SPD) will file a follow on Resolution that will address the following topics:

a. Determine the timing of the RMAR and regular updates.

b. Provide guidance for how the utility will demonstrate its confidence that observed results were due to mitigation effectiveness as opposed to other factors.

c. Establish detailed change control procedures for maintaining consistency and comparability between prior and future periods, and between plan, outcomes, results, and forecasts. The Resolution will include details about how and when recasts, backcasts and replans should occur.

d. Expand upon the list of required elements as outlined in Appendix A (Section 10.1).

e. Review and update the enforcement and corrective actions in Appendix B (Section 10.2).

f. Allow for future limited changes to Appendix A (Section 10.1) to be made by SPD without the need for opening a proceeding or issuing a new Resolution.

SPD Recommendations

- In a future Resolution, SPD should consider identifying and reducing duplication in other reporting processes, including the Risk Spend Accountability Report RSAR and Safety Performance Metric SPM Report.
- In a future Resolution, SPD should establish procedures and objectives for conducting an audit of an RMAR, as well as an audit of the internal process and controls for producing the RMAR and its updates
- Each utility should be required to conduct a backcast of the risk reduction achieved since its first RAMP filing using the RMAR structure. The original RAMP backcast must at a minimum provide an Average Risk Mitigation Benefit by Attribute Table for every mitigation and control included in a RAMP and General Rate Case (GRC) application.

SPD Recommendations

9.	Risk Assessment	The output of Step 2A, along with the input from stakeholders described in Row 12 below, will be used to decide which risks will be addressed in the RAMP. The output of Step 2A must include a summary of the Risk Mitigation Accountability Report Results Phase for each risk the utility intends to address in its RAMP application. This summary must include a copy of the utility's RMAR Outcomes Flow Table and Outcomes Stock Table. A narrative description must accompany these tables explaining any discrepancies between the modeled risk and the actual outcomes recorded during the previous GRC Cycle.

RMAR Required Tables

3. **Plan Phase Tables that must be included in the RMAR:**
   a. Plan Phase Mitigation Costs and Benefits Table by Mitigation
   b. Plan Phase Risk Reduction and Risk Tolerance Table by Mitigation
4. **Results Phase Tables that must be included in the RMAR:**
   a. Risk Outcomes Flow Table
   b. Risk Outcomes Stock Table
   c. Average Risk Mitigation Benefit and Cost by Risk Event Table
   d. Average Risk Mitigation Benefit and Cost by Tranche Table
   e. Average Risk Mitigation Benefit and Cost by Attribute for each Risk Event Table
   f. Average Risk Mitigation Benefit and Cost by Mitigation for each Risk Event Table
   g. Average Risk Reduction and Risk Tolerance by Risk Event Table
   h. Tail Average Risk Reduction and Risk Tolerance by Risk Event Table
   i. Average Risk Reduction and Risk Tolerance by Portfolio Table
   j. Tail Average Risk Reduction and Risk Tolerance by Portfolio Table
   k. Mitigation Work Unit Results by Risk Event Table

Include a narrative description of every table listed in Item 3 and Item 4. Explain any deficiencies or negative variances to the plan found in these tables. Explain what steps the utility intends to take to address these deficiencies and negative variances.

RMAR Required Narratives

7. Include a narrative description of a Risk Reporting Unit (RRU) which enables aggregation of reports.
8. Include a narrative description of any discrepancies between the modeled risk and the actual outcomes recorded during the previous GRC cycle.
9. Include a narrative section that describes any new tranche structures that were not used in a previous RAMP or GRC Cycle. Provide details of the key that is used as a bridge between the old and new tranche structures.
10. Include a narrative description of any subjective elements and assumptions related to each mitigation that have changed during the most recent update to the RMAR. The narrative must explain how the change has affected any RMAR information from the Plan Phase.
11. Include a narrative justification for assigning attribution for risk reduction from each mitigation. The utility must explain the causal mechanism that allows them to infer attribution. The utility must also highlight any additional factors other than the mitigation itself that could have contributed to any apparent risk reduction. Any assumptions or SME judgements must be made transparent.
12. Include a narrative discussion describing the model and data quality as well as certifies that internal quality control requirements have been met. This section should include description of any sensitivity analysis that was conducted on various model inputs or assumptions for each mitigation. This section can draw from the results of the Transparency Pilot or whatever sensitivity analyses are required by a future Decision in this or a successor proceeding or a Staff Resolution. The utility must also provide tables or workpapers to back up any sensitivity analysis results discussed in this narrative section.

Backcast

- Use updated inputs (i.e. new RRUs, new risk models) to recalculate Benefit-Cost Ratios, pre-mitigated risk, post-mitigated risk or other data point as required by the RDF, Commission Ruling or Commission Decision. The goal of a Backcast is to establish a bridge between the prior inputs and the new inputs, which ensure an "apples-to-apples" comparison.